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09/679,470	10/04/2000	Richard W. DeLange	Grant Prideco-109	5425

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EXAMINER

LUGO, CARLOS

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/679,470

Applicant(s)

DELANGE ET AL.

Examiner

Carlos Lugo

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-17 is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 18-27 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 03 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: DRAWINGS

### DETAILED ACTION

1. This Office Action is in response to applicant's request continued examination filed on March 26, 2003.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  - The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
3. **Claim 2 is rejected** under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "pin threads run out to an outside diameter of said first tubular body" in line 2. It is unclear if this outside diameter is the same one as the one recited on line 7 of claim 1.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1,2,4-10 and 12 are rejected** under 35 U.S.C. 102(b) as being anticipated by US Pat No 1,590,357 to Feisthamel.

Regarding claim 1, Feisthamel discloses a connection comprises a non-upset pin (2) having pin threads, formed externally and extending along a frustoconical surface from a starting point and terminating adjacent the pin end. That external surface has

an outside diameter no greater than the outside diameter of a major length of the pin member. The pin includes a pin nose at the free end (at the end of 2) having an inclined nose section.

A box member (1) includes a threaded surface to be engaged with the pin-threaded surface. This box-threaded surface extends along a frustoconical surface from a starting point and terminating adjacent the box end or in the opposite direction of the pin threaded surface. The box includes an annular inclined shoulder formed internally the box.

An external seal is located between the pin and the box element. It is located adjacent the starting point of the pin threaded surface and the box end.

An annular seal member (6) is carried in a groove within the free box end.

An internal seal (made by the annular seal) is located adjacent the starting point of the box threaded surface and the pin end. The pin and box threads are confined between the external and internal seals.

As to claim 2, Feisthamel discloses that the pin threads run out to an outside diameter of the first tubular body at the starting point of the pin threads.

As to claim 4, Feisthamel discloses that the pin seal surface is formed on a radially enlarged section of the first tubular body.

As to claim 5, Feisthamel discloses that the pin threads and the box threads are fully confined between the external and internal seals when the pin and the box members are engaged.

As to claim 6, Feisthamel discloses a connection comprises a pin (2a) having pin threads, formed externally and extending along a frustoconical surface from a starting point and terminating adjacent the pin end. That external surface has an outside diameter no greater than the outside diameter of a major length of the pin member. The pin includes a pin nose at the free end (at the end of 2a) having an inclined nose section.

A box member (1a) includes a threaded surface to be engaged with the pin-threaded surface. This box-threaded surface extends along a frustoconical surface from a starting point and terminating adjacent the box end or in the opposite direction of the pin threaded surface. The box includes an annular inclined shoulder formed internally the box.

An external seal is located between the pin and the box element. It is located adjacent the starting point of the pin threaded surface and the box end. The external seal comprises an annular elastomeric seal (13) disposed between the pin and the box.

An internal seal (7a) is located adjacent the starting point of the box threaded surface and the pin end. The pin and box threads are confined between the external and internal seals.

As to claim 7, Feisthamel discloses that the pin threads and the box threads are fully confined between the external and internal seals when the pin and the box members are engaged.

As to claim 8, Feisthamel discloses that the annular elastomeric seal ring (element 13) is carried in an annular groove (element 12) formed on the first tube.

As to claim 9, Feisthamel discloses that the external seal is an elastomeric seal ring (13) that is carried in an annular groove formed on the second tube (Figures 2-5)

As to claim 10, Feisthamel teaches an annular elastomeric seal ring (13) that is carried in an annular groove (12) formed on a first tube and adapted to engage a face formed on at an axial end of a box.

As to claim 12, Feisthamel discloses that the box carries a substantially frustoconical seal surface adjacent a face at an axial end of the second tube and the pin carries an annular elastomeric seal ring (element 13) adjacent the starting point for the pin threads, whereby the frustoconical surface engages the seal ring to provide the external seal when the pin and the box are engaged.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-8,10,12 and 18-27 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 4,696,498 to Church in view of US Pat No 1,590,357 to Feisthamel.

Regarding claims 1,6,8,10,12,18 and 20-22, Church discloses a connection comprising a pin (54) having pin threads, formed externally and extending along a frustoconical surface from a starting point and terminating adjacent the pin end. That external surface has an outside diameter no greater than the outside diameter of a major length of the pin member. The pin includes a pin nose at the free end having an inclined nose section.

A box member (54) includes a threaded surface to be engaged with the pin-threaded surface. This box-threaded surface extends along a frustoconical surface from a starting point and terminating adjacent the box end or in the opposite direction of the pin threaded surface. The box includes an annular inclined shoulder formed internally the box.

An external seal is located between the pin and the box element. It is located adjacent the starting point of the pin threaded surface and the box end.

An internal seal is located adjacent the starting point of the box threaded surface and the pin end. The pin and box threads are confined between the external and internal seals.

However, Church fails to disclose that the external seal comprises an annular elastomeric seal disposed between the pin and the box. Church discloses that the elastomeric seal is located at the middle and at the end of the threaded connection.

Feisthamel teaches that is known in the art to have an external seal that includes an annular elastomeric seal (13) disposed between the pin and the box.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have an external seal that includes an annular elastomeric seal, as taught by Feisthamel, into a device as described by Church, in order to prevent the loosening of the connection.

As to claim 2, Church discloses that the pin threads run out to an outside diameter of the first tubular body at the starting point of the pin threads.

As to claim 3, Church illustrates that the stab flanks of the pin threads have a greater inclination relative to a central axis of the connector than load flanks of the pin threads.

As to claim 4, Church discloses that the pin seal surface is formed on a radially enlarged section of the first tubular body.

As to claim 5, Church discloses that the pin threads and the box threads are fully confined between the external and internal seals when the pin and the box members are engaged.

As to claim 7, Church discloses that the pin threads and the box threads are fully confined between the external and internal seals when the pin and the box members are engaged.

As to claim 19, Church discloses that the internal seal is formed by the engagement of the pin nose with the box shoulder.

As to claims 23-27, Church discloses that the second tubular body comprises a coupling that has first and second axial coupling ends with the box member formed in the first and second ends.



8. **Claims 1-8,10,12 and 18-27 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 4,643,467 to Wood in view of US Pat No 1,590,357 to Feisthamel.

Regarding claims 1,6,8,10,12,18 and 20-22, Wood discloses a connection comprising a non-upset pin (6) having pin threads, formed externally and extending along a frustoconical surface from a starting point and terminating adjacent the pin end. The external surface has an outside diameter no greater than the outside diameter of a major length of the pin member. The pin includes a pin nose at the free end having an inclined nose section.

A box member (4) includes a threaded surface to be engaged with the pin-threaded surface. This box-threaded surface extends along a frustoconical surface from a starting point and terminating adjacent the box end or in the opposite direction of the pin threaded surface. The box includes an annular inclined shoulder formed internally the box.

An external seal is located between the pin and the box element. It is located adjacent the starting point of the pin threaded surface and the box end.

An internal seal is located adjacent the starting point of the box threaded surface and the pin end. The pin and box threads are confined between the external and internal seals.

However, Wood fails to disclose that the external seal comprises an annular elastomeric seal disposed between the pin and the box. Wood discloses that the elastomeric seal (54) is located at the end of the threaded connection.

Feisthamel teaches that is known in the art to have an external seal that includes an annular elastomeric seal (13) disposed between the pin and the box.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have an external seal that includes an annular elastomeric seal, as taught by Feisthamel, into a device as described by Wood, in order to prevent the loosening of the connection.

As to claim 2, Wood discloses that the pin threads run out to an outside diameter of the first tubular body at the starting point of the pin threads.

As to claim 3, Wood illustrates that the stab flanks of the pin threads have a greater inclination relative to a central axis of the connector than load flanks of the pin threads.

As to claim 4, Wood discloses that the pin seal surface is formed on a radially enlarged section of the first tubular body.

As to claim 5, Wood discloses that the pin threads and the box threads are fully confined between the external and internal seals when the pin and the box members are engaged.

As to claim 7, Wood discloses that the pin threads and the box threads are fully confined between the external and internal seals when the pin and the box members are engaged.

As to claim 19, Wood discloses that the internal seal is formed by the engagement of the pin nose with the box shoulder.

As to claims 23-27, Wood discloses that the second tubular body comprises a coupling that has first and second axial coupling ends with the box member formed in the first and second ends.

9. **Claims 18,20-23 and 25-27 are rejected** under 35 U.S.C. 103(a) as being unpatentable over 1,590,357 to Feisthamel.

Regarding claims 18 and 20-22, Feisthamel fails to disclose that in a connection of a non-upset pin member and a box member, the external seal comprises a pin seal. Feisthamel illustrates that in the connection of a non-upset pin member and a box member (Figure 1), the internal seal is the one that comprises the seal element.

However, Feisthamel teaches that is common to have a seal element (13) in the external seal (Figures 2 and 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a seal member located on the external seal in order to prevent the loosening of the connection.

As to claims 23 and 25-27, Church discloses that the second tubular body comprises a coupling that has first and second axial coupling ends with the box member formed in the first and second ends.

***Allowable Subject Matter***

10. **Claims 13-17 are allowed.**

11. **Claim 11 is objected** to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

12. Applicant's arguments filed on February 5, 2003 have been fully considered but they are not persuasive.

Regarding applicant's arguments that Feisthamel fails to disclose that the tubular body on which the pin is made has an external surface with an outside diameter no greater than the outside diameter of a major length of the first tubular member (Page 7 Lines 1-4), Feisthamel illustrates this limitation (See Attachment #3).

As to applicant's arguments that Feisthamel fails to disclose an annular inclined shoulder formed internally of the box for engagement with the inclined nose section of the pin (Page 7 Line 22), Feisthamel discloses this limitation. The limitation that the shoulder is for engagement with the nose portion is considered as the intended use of the shoulder.

A recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus, which differentiates it from a prior art reference disclosing the structural limitations of the claim. In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Yanush, 477 F.2d 958, 177 USPQ 705 (CCPA 1973); In re Finsterwalder, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963); Ex parte Masham, 2 USPQ2d 1647 (BdPatApp & Inter 1987).

As to applicant's arguments that Feisthamel fails to disclose pin threads that run out to the outside diameter of the first tubular body at the starting point of the pin threads (Page 8 Line 6), Feisthamel illustrates this limitation (See Attachment #1).

As to applicant's arguments that Feisthamel fails to disclose threads which stab flanks and load flanks have different inclinations (Page 8 Line 17), Church is presented to disclose this limitation.

As to applicant's arguments that Feisthamel fails to disclose that the pin threads are formed on a tubular section of the first tubular body having an outside diameter no greater than an outside diameter of a major length of the first tubular body (Page 8 Line 24 to Page 9 Line 1), Feisthamel illustrates this limitation (See Attachment #3).

As to applicant's arguments that Feisthamel fails to disclose an elastomeric seal ring carried in an annular groove formed on the pin component (Page 9 Line 8), Feisthamel illustrates that the pin has a groove or depression (Figures 2 and 3).

As to applicant's arguments that a claim is anticipated only if each and every element as set forth in the claim is found in a single prior art reference (Page 9 Line 23), Feisthamel and Church references anticipate each and every element as set forth in the claims.

As to applicant's arguments that Feisthamel fail to disclose a seal ring carried in an annular groove (Page 10 Line 8), Feisthamel illustrates that the pin has a groove or depression (Figures 2 and 3).

As to applicant's arguments that to support the conclusion that the claimed invention is direct to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention (Page 10 Line 23 to Page 11 Line 2), Feisthamel expressly or impliedly suggest the claimed invention. For example, Feisthamel discloses a pipe connection with different suggestions of engagement (Figures 1-5). New rejection in view of Church discloses and illustrates the invention as claimed (See the above rejection of Church in view of Feisthamel).

As to applicant's arguments of obviousness (Page 11 Line 3), a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill without any specific hint or suggestion in a particular reference. In re Bozek, 416 F. 2d 1385, 1390 163USPQ545, 549 CCPA 1969.

As to applicant's arguments that the mere fact that the reference can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination (Page 11 Line 8), the present prior art reference (Feisthamel) gives the initiative to be obvious to modify from one embodiment to another.

As to applicant's arguments that although the prior art device may be "capable of" (Page 11 Line 11), It has been held that the recitation that an element is "capable of" performs a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

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As to applicant's arguments that if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose (Page 11 Line 16), the present prior art reference (Feisthamel) teaches that the proposed modification will still be satisfactory for its intended purpose when the prior art (Feisthamel) discloses and illustrates different embodiments for a pin and box engagement (Figures 1-5).

As to applicant's arguments that the proposed modification or combination of the prior art would change the principle of operation (Page 11 Line 19), the present prior art (Feisthamel) discloses and illustrates different embodiments for a pin and box engagement (Figures 1-5) that clearly shows that the principle of operation will not change the engagement of the members.

### ***Conclusion***


13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents cited further show the state of the art with respect to pipe connections.
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lugo. The examiner phone number is (703)-305-9747. The fax number for correspondence before a final action is (703)-872-9326 and the fax number for correspondence after final action is (703)-872-9327. The email direction of the examiner is carlos.lugo@uspto.gov. The examiner can normally be reached on Monday to Friday from 9:30am to 6:30pm (EST). If the

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examiner is not available, please leave a message, including the application number  
and the examiner will answer the message as soon as possible.

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May 29, 2003



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